### ENVIRONMENTAL

# Fact Sheet



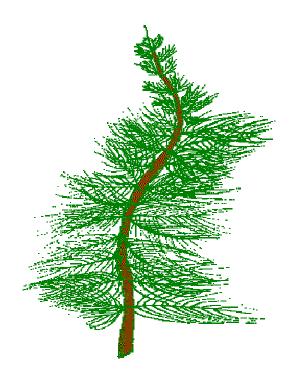
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#### Water Milfoil

Aquatic plants are found in most of the lakes and ponds in New Hampshire. They are a natural component and a vital link to a healthy and diverse aquatic ecosystem. When aquatic plants interfere with man's activities, the plants are quickly designated "weeds" - something that must be removed. However, complete eradication of native aquatic plants is not recommended. Not only is it costly and impractical, it is detrimental to a healthy lake ecosystem. Nature abhors a vacuum - and will quickly repopulate an empty niche. A balanced population of plant life is the ultimate goal.

New Hampshire has been fortunate not to have had many serious "weed" problems in its lakes and ponds. The one exception has been the introduction of exotic or non-native weeds such as milfoil (Myriophyllum heterophyllum). Most exotic species of animals or plants introduced to a foreign habitat have few, if any, enemies to keep them in check. Milfoil is no exception - and has become an economic and recreational nuisance in certain waters of the state.



This fact sheet was prepared to answer the questions that are most often asked by the public concerning the milfoil problem.

#### Why is exotic milfoil considered to be a nuisance in New Hampshire surface waters?

This species is not native to our state and it is very difficult to control once it becomes fully established. Milfoil spreads rapidly and displaces beneficial native plant life. It makes swimming difficult and may devalue waterfront property.

#### Are there other species of milfoil located in New Hampshire?

Yes - fortunately they rarely become a nuisance, unlike the exotic species.

#### How did exotic milfoil become established in this state?

Researchers feel that milfoil was introduced from one of the southern New England states. It was most likely a "stowaway" fragment attached to a boat or trailer that came to this region. Milfoil can live out of water for many hours attached to a trailer and can quickly rebound to full life once back in the water. They are often first observed in a lake at a launch site.

#### How does milfoil infest other sections of a lake or pond?

Boat propellers will chop up pieces of the milfoil plant. These pieces or plant fragments float on the surface, and are at the mercy of the wind and lake currents. In a short period of time roots are formed on the cut portion of the plant. If washed to shore, these plants eventually take hold, creating a new colony of milfoil. The cycle goes on until every suitable area is filled in with these weeds.

#### How does one identify milfoil from other aquatic plants?

It is not easy - a few native species and look-a-likes make it difficult even for the experts. We recommend that you contact the Biology Bureau at New Hampshire Department of Environmental Services in Concord if you suspect milfoil or some other exotic plant is taking up residence in your waterfront area.

#### Where is exotic milfoil currently located in New Hampshire?

Milfoil exists in many of the protected coves and bays in Lake Winnipesaukee. It also is found in Lees Pond, Moultonboro, Crescent and Wentworth Lakes, Wolfeboro, Paugus and Opechee Bays, Laconia, Cheshire Pond and Contoocook Lake, Jaffrey, Flints Pond, Hollis, Big Turkey and Little Turkey Ponds, Concord, Lower Suncook Lake and Locke Lake, Barnstead, Pearly Lake, Rindge, Broad Bay, Freedom, Mountain Pond, Brookfield, Northwood Lake, Northwood, Lake Waukewan, Meredith, Silver Lake, Tilton and Cobbetts Pond, Windham.

The above list changes periodically due to new infestations and control measures. Contact the Biology Bureau (271-3503) for the latest information.

Are sub-surface septic tanks and pollution causing the explosive growth of milfoil in Lake Winipesaukee?

Probably not - Lake Winnipesaukee's water quality is still good according to our latest water quality surveys. Most rooted aquatic plants secure their essential nutrients and vitamins from the bottom sediments that have been building up due to natural erosion processes and aging.

## How can we as citizens stop the spread of this nuisance plant to other parts of the state or region?

- 1. Clean your boat and trailer of all aquatic vegetation before launching into a lake and before transporting to another water body.
- 2. Stay clear of large weed patches while operating a speedboat. This will lessen the likelihood of spreading fragments to other sections of the lake.
- 3. Report any suspected milfoil infestations that are found in lakes.
- 4. Hand pull and remove the milfoil quickly if it shows up in your waterfront.
- 5. Keep your neighbors and any newcomers aware of the problem.

#### What control methods are currently being used to control milfoil in New Hampshire?

- 1. Mechanical harvesters cut and remove the plant about five feet below the waterline.
- 2. Bottom Barriers Fiberglass screen which limits upward growth of plant useful in beach areas.
- 3. Chemical control has been used with varying degrees of success. This method causes public concern about long term effects to water quality.
- 4. Handpulling is the most effective on small scale projects.

#### What research is being conducted to develop new methods of weed control in this country?

The major area of research for weed control is the field of biological control. The aim of this research is to find an organism that will reduce the growth rate of a target plant without affecting other plants. These organisms may control growth by grazing (fish, insects) or by disease (viruses, fungi). Some parts of the country use grass carp to control plant growth but their use is illegal in New Hampshire because of damaging ecological side effects. Two areas of research show promise for controlling milfoil in New Hampshire.

**First:** Researchers are working on isolating a natural plant virus which is deadly to milfoil. A virus was responsible for a 95% reduction of milfoil in the Chesapeake Bay in the past. Perhaps this or another naturally occurring virus could attack milfoil in New Hampshire sometime in the future.

**Second:** Naturally occurring insects feed on milfoil. An in-depth study in Vermont is looking at the use of an aquatic weevil to control milfoil growth. DES biologists investigated an aquatic larvae of a moth for controlling milfoil. Currently these insects do affect the milfoil, but their reproductive rates are slower than their target plants and therefore can't keep up with the large biomass. Artificially raising and innoculating sites with insects may be one way to increase the impact of the insects.

Does mechanical harvesting of milfoil spread the plant throughout a greater area of the lake?

Some spillage of cut fragments may occur during this type of control. This would not be a recommended method of control whenever milfoil invades a small area in a new lake system. Concerning Lake Winnipesaukee, harvesting would not pose a threat to spreading the plant for two reasons. (1) It is felt that most of the suitable habitat is already infested with milfoil. (2) If the plants are not harvested, motor boats will eventually chop the plants into viable fragments which can infest a new area.

#### Have chemicals been used to effectively control exotic milfoil?

Yes - They have been used with varying degrees of success. One treatment in the spring during peak plant growth is sufficient for that season and maybe into the next season. Chemicals are usually the method of choice for small new infestations that are too large for hand-pulling or screening. However, attempts to eradicate extensive areas of weeds using chemicals are rarely effective. In most cases the treated area becomes reinfested with fragments from other sections of the lake.

It is illegal to apply chemical herbicides to waters of New Hampshire unless one has a permit and is licensed by the State of New Hampshire. The use of chemicals by an untrained person could jeopardize the health and welfare of the lake and its inhabitants, including man!

#### What is a weed watcher?

A <u>weed watcher</u> is a person who lives along a lake and maintains a constant vigil for any new or unusual plant growth in the lake. The best method to protect a lake from an exotic weed infestation is to find the weed when first introduced. Small exotic weed infestations can be eradicated; large infestations, which can occur within 2 to 3 years after introduction, can only be managed by a costly annual maintenance program. Eradication of large infestations is impossible. Thus, early detection is essential to protect a lake from exotic weeds.